



AOTA Critically Appraised Topics and Papers Series
Alzheimer's Disease

**A product of the American Occupational Therapy Association's
Evidence-Based Literature Review Project*

CRITICALLY APPRAISED PAPER (CAP)

Focused Question

What is the evidence for the effect of interventions designed to modify and maintain perceptual abilities on the occupational performance of persons with dementia?

.....
Namazi, K., & Johnson, B. D. (1992b). Pertinent autonomy for residents with dementias: Modification of the physical environment to enhance independence. *American Journal of Alzheimer's Disease & Related Disorders & Research*, 7(1), 16-21.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

Issues of autonomy and independence have received increasing attention, but limited research has focused on autonomy and independence for residents with Alzheimer's disease (AD). Some studies have shown that greater opportunities of choice (autonomy) increase life satisfaction and improve psychological and physical status of nursing home residents. These issues need to be further explored with residents with AD.

RESEARCH OBJECTIVE(S)

List study objectives.

The purpose of the study was to identify features of the environment which can support the remaining abilities of people with AD and to address the issue of decision making and pertinent autonomy. Specifically, the study measured changes in residents' behaviors when they encountered both locked and unlocked exit doors.

Describe how the research objectives address the focused question.

The environment is being used as the intervention to use remaining perceptual abilities to enable decision making and autonomy. Both of these outcomes can be linked to occupational performance.

DESIGN TYPE:

One group design, comparing two door set-ups

Level of Evidence:

II

Limitations (appropriateness of study design):

Was the study design type appropriate for the knowledge level about this topic? *If no, explain.*

Yes

No

SAMPLE SELECTION

Inclusion Criteria

NR

Exclusion Criteria

NR

NR = Not reported

Sample Selection Biases: *If yes, explain.*

Volunteers/Referrals

Yes It is unclear how the sample was selected/recruited, so bias is possible.

No

Attention

Yes

No

Others (list and explain):

SAMPLE CHARACTERISTICS

N=22

% Dropouts	<input type="text" value="NR"/>	
# (%) Male	<input type="text" value="9"/>	# (%) Female <input type="text" value="13"/>
Ethnicity	<input type="text" value="NR"/>	
Disease/disability diagnosis	<input type="text" value="Probable Alzheimer's disease"/>	

Check appropriate group:

<20/study group	20–50/study group ✓	51–100/study group	101–149/study group	150–200/study group
-----------------	---------------------	--------------------	---------------------	---------------------

Sample Characteristics Bias: If no, explain.

If there is more than one study group, was there a similarity between the groups?

Yes

No

Were the reasons for the dropouts reported?

Yes

No

INTERVENTION(S)—Included are only those interventions relevant to answering the evidence-based question.

Add groups if necessary

Group 1

Brief Description	Locked door observation: 3 exterior doors locked with observers at each exit to record observations
Setting	Corinne Dolan Alzheimer Center; specially designed environment to support autonomy with walking paths for residents
Who Delivered?	Not reported. It is not clear who the observers were or what training they received.
Frequency?	50 hours of observation; 3 hours in the morning and 3 hours in the afternoon
Duration?	Not reported clearly; project was carried out in late October and early November

Group 2

Brief Description	Unlocked door observation: 3 exterior doors unlocked with observers at each exit and four observers stationed outside at specific stations
Setting	Corinne Dolan Alzheimer Center; specially designed environment to support autonomy with walking paths for residents
Who Delivered?	Not reported. It is not clear who the observers were or what training they received.
Frequency?	50 hours of observation; 3 hours in the morning and 3 hours in the afternoon.
Duration?	Not reported clearly; project was carried out in late October and early November

Intervention Biases: Explain, if needed.

Contamination

Yes

No

Co-intervention

Yes Other interventions offered to all or some residents are not described or reported to be monitored

No

Timing

Yes

No

Site

Yes

No

Use of different therapists to provide intervention

Yes It is possible that different observers at different times may have influenced the behaviors of residents.

No

MEASURES AND OUTCOMES—Included are measures relevant to answering the focused question.

Name of measure:

Study-designed observational checklist

Outcome(s) measured (what was measured?):

Five categories of behaviors were observed: Active responses (e.g., walking, agitated pacing, sitting), verbal responses (e.g., cursing, appropriate request, repetitive questions), aggressive responses (e.g., gesturing, throwing things), sexual responses (e.g., verbal sexual comments, exposing genitals), and other responses (e.g., incontinence, lack of interest in surroundings). 39 variables were observed in the 5 categories.

Is the measure reliable (as reported in article)?

Yes

No

NR

Is the measure valid (as reported in article)?

Yes

No

NR

How frequently was the measure used for each group in the study?

50 hours of observation; 3 hours in the morning and 3 hours in the afternoon. The duration of the study is not stated.

Measurement Biases

Were the evaluators blinded to treatment status? *If no, explain.*

Yes

No Observers would know whether or not the door was locked.

Recall or memory bias *If yes, explain.*

Yes

No

Others (list and explain):

Limitations (appropriateness of outcomes and measures) *If no, explain.*

Did the measures adequately measure the outcome(s)?

Yes

No The observation of behaviors (those reported in this study report are almost all negative behaviors) do not seem to be compatible with the study purpose of supporting remaining abilities, or addressing the issue of decision making and autonomy.

RESULTS

List results of outcomes relevant to answering the focused question

Include statistical significance where appropriate ($p < 0.05$)

Include effect size if reported

Results in this manuscript report on the first 30 minutes after residents encountered the locked or unlocked door. There were differences in the behaviors of residents under the two door conditions. Under the locked door condition there were 1417 active responses and 114 verbal responses. Under the unlocked door conditions there were 393 active responses and 25 verbal responses. Active responses included walking, wandering, agitated pacing, and so on. Verbal responses included cursing, screaming, talking to oneself, and so on. Differences between the two conditions were not tested for statistical significance.

Was this study adequately powered (large enough to show a difference)? *If no, explain.*

Yes

No The sample was 22 for a large number of observations; power analysis not reported.

Were appropriate analytic methods used? *If no, explain.*

Yes

No Only descriptive analyses were used. It may have been possible to compare the two conditions.

Were statistics appropriately reported (in written or table format)? *If no, explain.*

Yes

No

CONCLUSIONS

State the authors' conclusions that are applicable to answering the evidence-based question.

The authors conclude that the study results support the idea that the need for autonomy and independence do not diminish with impairments in cognitive ability. They also note that “the decrease in negative aggressive behaviors under the unlocked door condition is an indication that a sense of freedom may enhance residents' quality of life” (p. 20).

Were the conclusions appropriate for the Study Design (Level of Evidence)? *If no, explain.*

Yes

No The design appears weak since limited information is provided about the study sample and the measures used. Further, the measure is not related to autonomy or independence.

Were the conclusions appropriate for the statistical results? *If no, explain.*

Yes

No The results are descriptive only—very little can be concluded about the value of an unlocked door in changing behaviors.

Were the conclusions appropriate given the study limitation and biases? *If no, explain.*

Yes

No The limitations described related to measurement, sample selection, and design mean that little conclusive evidence can be drawn from this descriptive study.

IMPLICATIONS FOR OCCUPATIONAL THERAPY

This section provides guidance about clinical practice, program development, and other implications of the study findings as they relate to the focused question.

The results of this study suggest that an unlocked exit door may reduce unwanted behaviors in residents with Alzheimer's disease and other dementias. However, without statistical support for the differences between the two conditions, even this conclusion must be interpreted with caution. Further, the authors' conclusions related to autonomy, decision making, and quality of life seem inappropriate considering the study and measurement limitations. In terms of the focused question relating to using remaining perceptual abilities, the study provides limited support for the notion that environmental design can influence behaviors and to a lesser extent occupational performance (e.g., walking, verbal communication). However, the study does not provide a link between the environmental condition and using remaining perceptual abilities.

This work is based on the evidence-based literature review completed in August 2005 by Lori Letts, PhD, OT Reg. (Ont.); Jacqueline Minezes, BSc (OT), OT Reg. (Ont.); Julie Berenyi, BHSc (OT) OT Reg. (Ont.); Mary Edwards, MHSc, OT Reg. (Ont.); Kathy Moros, BHSc (OT), OT Reg. (Ont.); Colleen O'Neill, BSc (OT), OT Reg. (Ont.); and Colleen O'Toole, MSc (OT), OT Reg. (Ont.).

CAP Worksheet adapted from: Critical Review Form – Quantitative Studies ©Law, M., Stewart, D., Pollack, N., Letts, L., Bosch, J., & Westmorland, M., 1998, McMaster University. Used with permission.

For more information about the Evidence-Based Literature Review Project, contact the American Occupational Therapy Association, 301-652-6611, x 2052.



Copyright 2007 American Occupational Therapy Association, Inc. All rights reserved.
For personal or educational use only. All other uses require permission from AOTA.
Contact: copyright@aota.org